

E-cigarettes help pregnant smokers quit without risks to pregnancy, trial finds

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A new analysis of trial data on pregnant smokers, led by researchers at Queen Mary University of London, finds that the regular use of nicotine-replacement products during pregnancy is not associated with adverse pregnancy events or poor pregnancy outcomes.

The PREP 2 study used data collected from over 1,100 pregnant smokers attending 23 hospitals in England and one stop-smoking service in Scotland to compare pregnancy outcomes in [women](#) who did or did not use nicotine in the form of e-cigarettes (EC) or nicotine patches regularly during their pregnancy.

The study, "Safety of e-cigarettes and nicotine patches as stop-smoking aids in pregnancy: Secondary analysis of the Pregnancy Trial of E-cigarettes and Patches (PREP) randomized controlled trial," was published in the journal *Addiction*.

Researchers took measurements of salivary cotinine levels at baseline and towards the end of pregnancy, and gathered information about each participant's use of cigarettes or types of NRT, respiratory symptoms, and the birth weight and other data of their babies at birth.

The study found that ECs were more commonly used in the group studied than nicotine patches (47% compared with 21%), and also confirmed previous unexpected findings that EC use may reduce respiratory infections in vapers, possibly because the main ingredients of EC, aerosol, propylene glycol, and glycerine, have antibacterial effects.

Women who smoked and also used one of the nicotine-replacement products during their pregnancy had babies with the same birth weights as women who only smoked, while babies born to women who did not smoke during pregnancy did not differ in [birth weight](#), whether the women did or did not use nicotine products. Regular use of nicotine products was not associated with any adverse effects in mothers or their babies.

Lead researcher, Professor Peter Hajek from the Wolfson Institute of Population Health, Queen Mary University of London, said, "The trial contributes answers to two important questions, one practical and one

concerning our understanding of risks of smoking. E-cigarettes helped [pregnant smokers](#) quit without posing any detectable risks to pregnancy compared with stopping smoking without further nicotine use."

"Using nicotine-containing aids to stop smoking in pregnancy thus appears safe. The harms to pregnancy from smoking, in late pregnancy at least, seem to be due to other chemicals in [tobacco smoke](#) rather than nicotine."

Prof Tim Coleman from the University of Nottingham's Smoking in Pregnancy Research Group, which led trial recruitment said, "Smoking in pregnancy is a massive [public health](#) problem and nicotine containing aids can help pregnant women to stop smoking, but some clinicians are reticent about providing NRT or e-cigarettes in pregnancy."

"This study provides further, reassuring evidence that tobacco smoke chemicals rather than nicotine are responsible for smoking-related harms, so using nicotine containing aids to quit is vastly preferable to continuing to smoke when pregnant."

Professor Linda Bauld, Bruce and John Usher Chair in Public Health at the University of Edinburgh and a study co-investigator said, "Clinicians, [pregnant women](#) and their families have questions about the safety of using [nicotine](#) replacement therapy (NRT) or e-cigarettes during pregnancy. Women who continue to smoke during pregnancy often find it difficult to stop but products like NRT or e-cigarettes can help them to do so."

"These results suggest that NRT or vaping can be used as part of a quit attempt without adverse effects. Our findings should be reassuring, and provide further important evidence to guide decision-making on [smoking](#) cessation during [pregnancy](#)."

The study, conducted by researchers at Queen Mary University of London, University of New South Wales (Australia), University of Nottingham, St George's University of London, University of Stirling, University of Edinburgh, and King's College London, and St George's University Hospitals NHS Foundation Trust, analyzed data collected in the Pregnancy Trial of E-cigarettes and Patches (PREP) randomized controlled trial.

More information: Safety of e-cigarettes and nicotine patches as stop-smoking aids in pregnancy: Secondary analysis of the Pregnancy Trial of E-cigarettes and Patches (PREP) randomized controlled trial, *Addiction* (2024). [DOI: 10.1111/add.16422](https://doi.org/10.1111/add.16422)

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